

## **Research to help us better understand how maintaining small levels of insulin, as indicated by C-peptide, in people with type 1 diabetes can improve their outcomes including their quality of life**

This highlight notice is an invitation for researchers to apply to this funding round with scientific proposals that try to understand how the levels of endogenous insulin secretion as indicated by a small protein (C-peptide) in the blood can affect people living with type 1 diabetes, including how it impacts on their quality of life.

The Diabetes Research Steering Groups have identified that a better knowledge of how small levels of insulin secretion as indicated by C-peptide levels in the blood can affect life with type 1 diabetes will improve the understanding of the condition. Research in this area has the potential to improve the treatment and management of type 1 diabetes, including interventions to help maintain endogenous insulin secretion.

We are looking for projects that will impact the lives of people living with type 1 diabetes, deliver high quality research, and give a high value for money.

C-peptide is an important marker to assess residual insulin production in individuals with type 1 diabetes, because even low levels of C-peptide are now considered clinically relevant. Studies from patients soon after diagnosis of type 1 diabetes suggest that ~10% of normal  $\beta$ -cells (= the insulin secreting cells in the pancreas) remains and without intervention, all individuals with type 1 diabetes are thought to lose insulin production. However, it is now possible to preserve insulin secretion and therefore C-peptide levels and also transplant islets in people with type 1 diabetes, but our current understanding of how this intervention impacts quality-of-life and other aspects is limited.

“The potential to use the remaining normal  $\beta$ -cells in the pancreas in people with Type 1 diabetes to produce insulin, possibly augmented by transplanted islets, is an exciting avenue of research which could help open the way to improved treatments for Type 1 diabetes. This project will explore how such treatments could benefit people with diabetes, including the overall impact on quality of life” *David Dupont, a carer of someone living with diabetes and co-author of this highlight notice.*